

### REMARKS

This is in response to the Office Action mailed on January 9, 2004, and the references cited therewith.

Claims 11, 24, 25-28, 32, 38, and 40 are amended, no claims are canceled, and no claims are added; as a result, claims 11, 13, 14, 24-28, 32, and 38-43 are now pending in this application.

#### Objections to the claims

Claim 25 was objected to for including a typographical error. Applicant has deleted the instance of "SiO<sub>2</sub>" as suggested by the Examiner. Applicant respectfully submits that this claim is now free of typographical errors, and is in condition for allowance.

#### §112 Rejection of the Claims

Claims 26 and 27 were rejected under 35 USC § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has amended claims 26 and 27 to correct the antecedent basis issues as suggested by the Examiner. Reconsideration and withdrawal of the rejection is respectfully requested.

#### §102 Rejection of the Claims

Claims 11, 24, and 38 were rejected under 35 USC § 102(b) as being anticipated by Saito (JP 4-34942).

Saito does not appear to show a Si<sub>1-x</sub>Ge<sub>x</sub> channel region wherein the Si<sub>1-x</sub>Ge<sub>x</sub> channel region is formed from ion implanting germanium (Ge) into the substrate at a dose of approximately  $2 \times 10^{16}$  atoms/cm<sup>2</sup> or greater, and wherein the Ge is implanted at an energy of approximately 20 to 100 keV.

In contrast, claims 11, and 38 as amended include a Si<sub>1-x</sub>Ge<sub>x</sub> channel region wherein the Si<sub>1-x</sub>Ge<sub>x</sub> channel region is formed from ion implanting germanium (Ge) into the substrate at a

dose of approximately  $2 \times 10^{16}$  atoms/cm<sup>2</sup>, and wherein the Ge is implanted at an energy of approximately 20 to 100 keV. Further in contrast, claim 24 as amended includes a Si<sub>1-x</sub>Ge<sub>x</sub> channel region wherein the Si<sub>1-x</sub>Ge<sub>x</sub> channel region is formed from ion implanting germanium (Ge) into the substrate at a dose greater than or equal to  $2 \times 10^{16}$  atoms/cm<sup>2</sup>, and wherein the Ge is implanted at an energy of approximately 20 to 100 keV.

Because the Saito reference does not show every element of Applicant's independent claims, a 35 USC § 102(b) rejection is not supported. Reconsideration and withdrawal of the rejection are respectfully requested with respect to Applicant's independent claims 11, 24, and 38.

### **§103 Rejection of the Claims**

Claims 11, 13, 14, 24, 26-28, and 38-40 were rejected under 35 USC § 103(a) as being unpatentable over Nakagawa (U.S. Patent No. 5,272,365) together with Burghartz et al. (U.S. Patent No. 5,461,250).

Nakagawa does not appear to show a Si<sub>1-x</sub>Ge<sub>x</sub> channel region wherein the Si<sub>1-x</sub>Ge<sub>x</sub> channel region is formed from ion implanting germanium (Ge) into the substrate at a dose of approximately  $2 \times 10^{16}$  atoms/cm<sup>2</sup> or greater, and wherein the Ge is implanted at an energy of approximately 20 to 100 keV.

In contrast, claims 11, 28, 38, and 40 as amended include a Si<sub>1-x</sub>Ge<sub>x</sub> channel region wherein the Si<sub>1-x</sub>Ge<sub>x</sub> channel region is formed from ion implanting germanium (Ge) into the substrate at a dose of approximately  $2 \times 10^{16}$  atoms/cm<sup>2</sup>, and wherein the Ge is implanted at an energy of approximately 20 to 100 keV. Further in contrast, claim 24 as amended includes a Si<sub>1-x</sub>Ge<sub>x</sub> channel region wherein the Si<sub>1-x</sub>Ge<sub>x</sub> channel region is formed from ion implanting germanium (Ge) into the substrate at a dose greater than or equal to  $2 \times 10^{16}$  atoms/cm<sup>2</sup>, and wherein the Ge is implanted at an energy of approximately 20 to 100 keV.

Applicant respectfully submits that the additional reference of Burghartz fails to cure the deficiencies of Nakagawa as outlined above.

Because the cited references, either alone or in combination, do not show every element of Applicant's independent claims, a 35 USC § 103(a) rejection is not supported by the

references. Reconsideration and withdrawal of the rejection is respectfully requested with respect to Applicant's independent claims 11, 24, 28, 38, and 40. Additionally, reconsideration and withdrawal of the rejection are respectfully requested with respect to the remaining claims that depend therefrom as depending on allowable base claims.

**Allowable Subject Matter**

Claim 32 was objected to as being dependent upon a rejected base claim, but was indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant has incorporated selected limitations of claim 32 into independent claim 28. Applicant respectfully submits that pursuant to arguments made above, that claim 28 as well as claim 32 are now in condition for allowance.

Applicant acknowledges and thanks the Examiner for the allowance of claims 25 and 41-43.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6944 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

LEONARD FORBES

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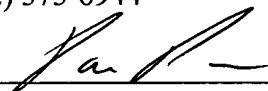
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 8 day of April, 2004.

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